AMINO ACIDS IN SOME RECENT SEDIMENTS OF THE SYOWA STATION AREA

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Abstract: Amino acid assemblages for 5 glacio-marine, 2 raised glacio-marine, 2 freshwater lake and 1 salt lake sediments of the Quaternary age in the east coast of Lützow-Holm Bay, East Antarctica, collected by JARE-22 (1980–1982), were studied from the standpoint of a depositional environment.

The total contents of 22 kinds of amino acids obtained in acid hydrolyzates of the sediments range from 0.1506 to 45.9419 μmol/g on a dry basis. On the triangular diagram of non-protein (β-alanine, γ-aminobutylic acid and D-alloisoleucine)–basic–acidic amino acids (K. SASAKI, Sci. Rep. Tohoku Univ., Ser. 3, **12**, 122, 1973) for estimating the depositional environment, all samples studied fall into the field showing a relatively large amount of non-protein amino acids which may have been derived from terrestrial organic matter. Mole ratios of D-alloisoleucine, produced by the racemization of L-isoleucine, per L-isoleucine in the sediments range from 0.009 to 0.063.

Judging from the fact that contents of D-alloisoleucine in the marine and non-marine sediments are relatively high, it can be considered that there is no effect of bacterial and diagenetic alterations of L-enantiomer to account for the origin of D-alloisoleucine in this area. Such occurrences of amino acids suggest that unmetamorphosed sedimentary rocks, which had been estimated by the artificial seismic observation (K. KAMINUMA, Gekkan Chikyu, **1**, 733, 1979) and the discovery of Tertiary tuffaceous sandstone blocks from the Gannerus Bank (H. NIINO, J. Tokyo Univ. Fish., Spec. Ed., **1**(3), 250, 1958), are developed under the ice sheet on the East Antarctic landmass. Furthermore, from the fact that limnetic diatom *Aulacosina granulate* (EHRENBERG) SIMONSEN and *Compositae* polen had been found from the ice sheet near the Yamato Mountains (SASAKI, unpublished MS), the aerial transported plant remains in the ice indicate the possibility of a small source for non-protein amino acids in the recent sediments of the Syowa Station area.

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